

Claims

[c1] 1. A bicycle electrical control apparatus comprising:
a first control unit that provides first electrical signals;
a second control unit that provides second electrical signals;
an electrical connecting cord having a first end coupled to the first control unit and a second end coupled to the second control unit for communicating the first electrical signals from the first control unit to the second control unit;
a first connecting terminal fastened to one of the first and second ends of the electrical connecting cord;
a second connecting terminal disposed on one of the first and second control units; and
wherein the first connecting terminal is detachably connected to the second connecting terminal.

[c2] 2. The apparatus according to claim 1 wherein the first control unit is operated by power provided by a power supply mounted to the bicycle.

[c3] 3. The apparatus according to claim 1 wherein the first electrical signals comprise signals that correspond to a state of motion of the bicycle.

- [c4] 4. The apparatus according to claim 3 wherein the state of motion of the bicycle is bicycle speed.
- [c5] 5. The apparatus according to claim 4 wherein the first control unit receives pulses corresponding to bicycle speed and provides first electrical signals that correspond to bicycle speed from the pulses.
- [c6] 6. The apparatus according to claim 5 wherein the pulses arise from an output of a dynamo.
- [c7] 7. The apparatus according to claim 1 wherein the first electrical signals comprise power signals.
- [c8] 8. The apparatus according to claim 7 wherein the second control unit is operated by the power signals.
- [c9] 9. The apparatus according to claim 1 wherein the first electrical signals comprise control signals.
- [c10] 10. The apparatus according to claim 9 wherein the second control unit is controlled by the control signals.
- [c11] 11. The apparatus according to claim 1 wherein the second electrical signals comprise drive signals for driving a moving electrical component.
- [c12] 12. The apparatus according to claim 11 wherein the second electrical signals comprise drive signals for mov-

ing a suspension component.

- [c13] 13. The apparatus according to claim 11 wherein the second electrical signals comprise drive signals for moving a gear change component.
- [c14] 14. The apparatus according to claim 1 wherein the second electrical signals comprise drive signals for driving an electrical display.
- [c15] 15. The apparatus according to claim 1 wherein the first electrical signals comprise power signals and control signals.
- [c16] 16. The apparatus according to claim 15 wherein the first electrical signals comprise a composite signal that contains the power signals and the control signals.
- [c17] 17. The apparatus according to claim 1 wherein one of the first and second connecting terminals is structured to screw onto the other one of the first and second connecting terminals.
- [c18] 18. The apparatus according to claim 17 wherein the one of the first and second connecting terminals comprises a Y-terminal.
- [c19] 19. The apparatus according to claim 1 wherein one of the first and second connecting terminals comprises a

male terminal, and wherein the other one of the first and second connecting terminals comprises a female terminal.

- [c20] 20. The apparatus according to claim 19 wherein the first and second connecting terminals comprise FASTON terminals.
- [c21] 21. The apparatus according to claim 1 wherein the first connecting terminal is crimped onto the one of the first and second ends of the electrical connecting cord.
- [c22] 22. The apparatus according to claim 1 wherein the first connecting terminal comprises one of a multi-terminal socket and a multi-terminal plug, and wherein the second connecting terminal comprises the other one of the multi-terminal socket and the multi-terminal plug.
- [c23] 23. The apparatus according to claim 22 further comprising:
 - a third connecting terminal fastened to the other one of the first and second ends of the electrical connecting cord; and
 - a fourth connecting terminal disposed on the other one of the first and second control units.
- [c24] 24. The apparatus according to claim 23 wherein one of the third and fourth connecting terminals is structured to

screw onto the other one of the third and fourth connecting terminals.

[c25] 25. The apparatus according to claim 23 wherein one of the third and fourth connecting terminals comprises a male terminal, and wherein the other one of the third and fourth connecting terminals comprises a female terminal.